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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,067	08/27/2003	Ruban Kanapathippillai	42P14037D2	4624

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EXAMINER

CHANG, DANIEL D

ART UNIT PAPER NUMBER

2819

DATE MAILED: 01/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/649,067

Applicant(s)

KANAPATHIPPILLAI ET AL

Examiner

Daniel D. Chang

Art Unit

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AM

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-24 and 40-57 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20-24 and 40-57 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(i) & 37 CFR 1.84(p) because lines, numbers & letters are not uniformly thick and well defined, clean, durable, and black (poor line quality). Also, some characters are too small and illegible.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

The abstract of the disclosure is objected to because the current abstract does not reflect the inventive feature of the claimed invention. Correction is required. See MPEP § 608.01(b).

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: A BUS STATE KEEPER.

The disclosure is objected to because of the following informalities: US Pat. Num. 6,732,203 should be included in the first paragraph of the specification.

Appropriate correction is required.

Claim Objections

Claims 55-57 are objected to because of the following informalities: on line 2, “the first bus” appears to be “the output bus”. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 20-24 and 40-57 are rejected under 35 U.S.C. 102(b) as being anticipated by Galbraith et al. (US 5,396,130, hereinafter, “Galbraith”).

Regarding claim 20, Galbraith discloses, in Figs. 1-4, a bus state keeper comprising:
a plurality (since there are N-bits) of multiplexers (MUX 16; see Fig. 2) each having
a select input (MODE), a first input (output of 14), a second input (20A), and an output
(16A), the output coupled to each respective bit of a first bus (16A) coupled to a plurality of
devices (directly and indirectly to 18, 20, 14, and 17), wherein the first bus is to be kept in a
steady state when inactive (when 20A is selected by MODE),

the first input coupled to each respective bit of a second bus (output of 14),
the select input of each of the plurality of multiplexers coupled to a select signal
(MODE); and

a plurality of flip flops (see 18, 20) each having a data input (DI), a data output (20A)
and a clock input (CI), the data input coupled to each respective bit of the first bus (16A),

the data output coupled respectively to the second input of the plurality of multiplexers,
the clock input coupled to a clock signal (CI; see col. 5, lines 10+),

the plurality of flip flops (18, 20) to store a state (col. 3, lines 67+) of the first bus in
response to the select signal (MODE).

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Regarding claim 21, Galbraith discloses, in Figs. 1-4, that the plurality of flip flops are clocked by the clock signal (CI; see col. 5, lines 19+) to store a state of the first bus (16A).

Regarding claim 22, Galbraith discloses, in Figs. 1-4, that the select signal (MODE) input to each select input of the plurality of multiplexers (16) selects between outputting from the plurality of multiplexers a stored state (see 20A) in the flip flops (18, 20) onto the first bus (16A) or

outputting the state of the second bus (N-bit output of 14) onto the first bus.

Regarding claim 23, Galbraith discloses, in Figs. 1-4, that the select signal input (MODE) to each select input of the plurality of multiplexers selects to output (16A) from the plurality of multiplexers (16) a stored state (20A) in the flip flops (onto the first bus to maintain a state of the first bus (output of 121)).

Regarding claim 24, Galbraith discloses, in Figs. 1-4, that the select signal (MODE) maintains a state of the first bus (16A) to conserve power (inherent since reducing the switching of signals).

Claims 40, 41, and 43 are essentially the same in scope as apparatus claims 20-24 and are rejected similarly.

Regarding claim 42, Galbraith discloses, in Fig. 3, that wherein each of the plurality of flip flops are a single bit D type flip flop (see lower half of Fig. 3).

Regarding claim 44, Galbraith discloses, in Fig. 3, that wherein when the input bus (output of 14) is selected (by MODE) to be output by the plurality of multiplexers, the bus state keeper drives the state of the input bus onto the output bus to change the state of the output bus (col. 4, lines 51+).

Claims 45-52 are essentially the same in scope as apparatus claims 20-44 and are rejected similarly.

Regarding claims 53 and 55-57, Galbraith discloses that wherein one of the plurality of devices coupled (directly or indirectly) to the first bus is a flip flop (see 18 in Fig. 3).

Regarding claim 54, Galbraith discloses that wherein another one of the plurality of devices coupled (directly or indirectly) to the first bus is a memory block (col. 1, lines 26+).

Response to Arguments

Applicant's arguments with respect to claims 20-24 and 40-57 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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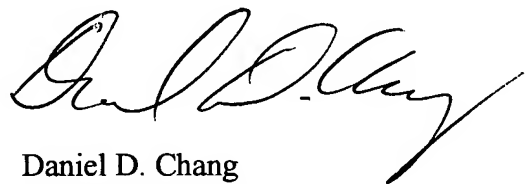
however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel D. Chang whose telephone number is (571) 272-1801.

The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rexford Barnie can be reached on (571) 272-7492. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Daniel D. Chang
Primary Examiner
Art Unit 2819

DANIEL CHANG
PRIMARY EXAMINER

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